

REMARKS

Claims 1 and 9 are amended. Claims 1-13, as amended, remain in the application. No new matter is added by the amendments to the claims.

The Rejections:

In the Office Action dated March 23, 2006, the Examiner rejected Claims 1-7 and 9-12 under 35 U.S.C. 103(a) as being unpatentable over Mitsubishi (EP 1,148,018) in view of Hossler (US 2003/0094333).

Regarding Claim 1, the Examiner stated that Mitsubishi discloses an elevator drive brake element (41) rotatable between a brake reset and brake released position, a handle (18a) attached to the brake element for rotation between the locked and unlocked positions, thereby placing the brake in the reset and released positions, respectively, and a means (46) for automatically restraining said drive brake element, and thereby said handle, from rotating to said released position. According to the Examiner, Hossler, however, teaches his handle (41) that is rotatable between said brake reset and released positions and a selectively operated locking means (150, Fig. 2) for maintaining said handle in a locked and, thereby, said brake reset position. His locking means is "... a commercially available keyed plunger lock... used to ensure that the handle cannot be moved out of the locked position" (Page 2, Para. 0018). It is the Examiner's opinion that in that handle-locking systems are known to industry, it would have been obvious to one of ordinary skill in the art to modify the invention of Mitsubishi with the teaching of Hossler to provide a properly secured, manually actuated, emergency means for engaging/disengaging the brake.

Regarding Claims 2-7 and 9-12, the Examiner stated that Hossler discloses said handle with a latch receiving aperture (42) and said locking means having a latching plunger (151) for releasably engaging said latch receiving aperture when said handle is in said locked position. According to the Examiner, whereas Mitsubishi discloses a removable handle having an elongated arm and seated in his brake element, Hossler teaches his handle having an elongated arm and affixed to his brake element (Fig. 1). The Examiner stated that Hossler teaches an elongated arm having a leading edge (Fig. 2) for actuating said latching plunger, in keeping with said "... commercially available keyed plunger lock...", said arm inherently having a rounded contour for contacting said latching plunger. It is the Examiner's opinion that in that Hossler

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teaches said, "... commercially available keyed plunger lock... used to ensure that the handle cannot be moved out of the locked position" a key actuated lock cylinder is inherent.

The Examiner rejected Claims 8 and 13 under 35 U.S.C. 103(a) as being unpatentable over Mitsubishi in view of Hossler and in further view of Aulanko. The Examiner stated that though Mitsubishi and Hossler are silent regarding a safety switch, attention is drawn to Aulanko who teaches "...a detector (71) ... which... can be connected to the elevator control system." (Col. 3, Line 29). According to the Examiner it would have been obvious to one of ordinary skill in the art to modify the inventions of Mitsubishi and Hossler with the teaching of Aulanko to provide an interlock with the elevator control system to confirm the status of an emergency brake release system.

The Response:

Mitsubishi shows a maintenance operation panel 10 including a brake release device 17 having a detachable operating arm 18a. As shown in Fig. 8, the operating arm 18a is inserted into an operating arm receiver 41 that is pivotally mounted on an operating shaft 42. An action pin 43 is positioned a distance from the shaft 42 on the receiver 41 and is connected to a wire 44. As the arm 18a and the receiver 41 are rotated at the shaft 42, the wire 44 is moved. A stopper pin 46 prevents the rotation of the operating arm receiver 41 in the brake release direction. When it is desired to release the brake, an operating pin 47 is used to move the stopper pin 46 thereby enabling pivotal motion of the receiver 41.

Hossler shows a rope locking device for locking ropes used in theatrical applications. A handle 41 is rotatable between locked and unlocked positions. A keyed plunger lock 150 is attached to a side plate 23 and a plunger 151, when activated, passes through a hole 152 in the side plate and is received in a hole 42 in the handle 41 to lock the handle in place.

Applicant amended Claim 1 to clarify that the locking means automatically locks the handle in the locked position upon engagement by the handle. Applicant amended Claim 9 to clarify that the latching plunger automatically locks the handle in the locked position upon engagement by the handle. Support for these amendments is found on Page 3, at Lines 6-18, wherein Applicant states:

In the illustrated embodiment, the latching system includes a latching plunger 26 which is normally spring biased to a closed position as clearly illustrated in Fig. 4. The latching plunger 26 is caused to be cammed inwardly toward an open position against the bias of a locking spring, not shown, by the camming action of the leading edge of the handle 12. When the outermost end of the latching plunger 26 becomes aligned with the aperture 18 of the handle 12, the latching plunger 26 is forced to its closed and locked position. The handle 12 thereupon is immobilized and locked in position and will remain in such condition until an authorized attendant inserts a key 28 into a lock cylinder 30 of the lock assembly 20 and properly unlocks the lock assembly 20 to allow the plunger 26 to be withdrawn from the locking position in the latch receiving aperture 18 of the handle 12. When the handle 12 is moved out of the recess 24, the drum 14 is rotated to a brake released position to release the drive brake and permit movement of the elevator car.

There is no disclosure in Mitsubishi that the stopper pin 46 automatically locks the receiver 41 in a locked position upon engagement by the receiver 41. As shown in Fig. 9 of Mitsubishi, the receiver (not labeled) is to the left of and spaced from the pin 46. The receiver 41 cannot be moved from the brake released position back to the blocked position without manually retracting the pin 46 to allow the receiver to pass.

The Examiner stated that Hossler teaches an elongated arm having a leading edge (Fig. 2) for actuating said latching plunger, in keeping with said "... commercially available keyed plunger lock...", said arm inherently having a rounded contour for contacting said latching plunger. It is the Examiner's opinion that in that Hossler teaches said, "... commercially available keyed plunger lock... used to ensure that the handle cannot be moved out of the locked position" a key actuated lock cylinder is inherent.

The Examiner has incorrectly characterized the operation of the Hossler lock 150. As shown in Fig. 2, the plunger 151 is not engaged with the hole 42 in the handle 41 even though they are aligned. Obviously the lock 150 is of the dead bolt type requiring actuation by a key to move the plunger 151 in either direction. This operation is confirmed by the statement that "The plunger 151, when activated, passes through a hole 152 defined by side plate 23." (¶ [0018]) Such operation makes sense since it would not be desirable to have automatic locking during repeated applications and release of the brake as theatrical equipment is being positioned.

Thus, neither Mitsubishi nor Hossler discloses the automatic locking feature defined by Applicant's independent Claims 1 and 9.

Aulanko shows a manually activated elevator brake release device with a detector 71 indicating the functional status of the releasing device. However, Aulanko does not provide the claimed element missing from the combination of Mitsubishi and Hossler.

In view of the amendments to the claims and the above arguments, Applicant believes that the claims of record now define patentable subject matter over the art of record. Accordingly, an early Notice of Allowance is respectfully requested.

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